



AIM™

Simple and Precise 3D Needle Guidance

The Problem

Precise needle placement using ultrasound is extremely difficult, due to poor visibility and complex hand-eye coordination. Device misplacement results in multiple “stabs,” lengthy procedures, patient injury, and incomplete interventions. The resulting injuries cost over \$1B to repair annually, and these errors are the leading cause of malpractice claims against general surgeons.

Needle-based interventions have up to 20% injury rates.
(U.S. Agency on Healthcare Research & Quality)

Better visualization would enable more image-guided procedures to be performed with greater success.

InnerOptic's Solution

InnerOptic's AIM™ Software is an FDA-cleared “GPS for Needle Guidance,” enhancing the physician's ability to easily, quickly and precisely place a needle (e.g., ablation antenna, biopsy needle, catheter introducer, etc.) with ultrasound imaging.

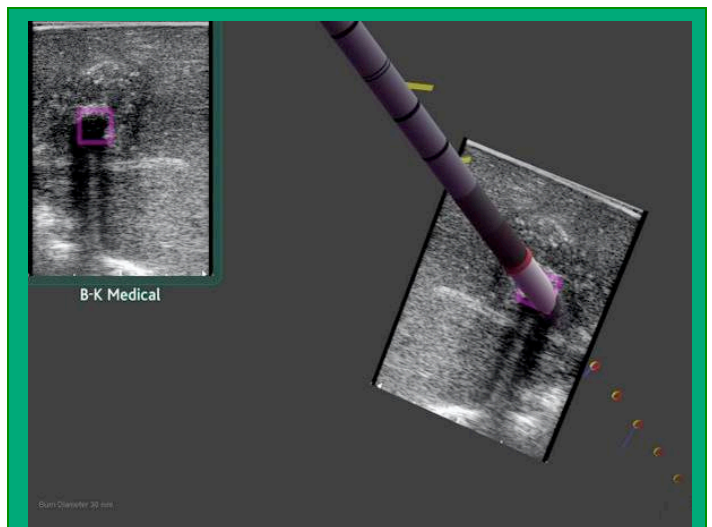
InnerOptic's AIM 3D software improves the accuracy of needle-based interventions, reduces injuries, and shortens procedure times, resulting in better patient outcomes.

InnerOptic's AIM solves the spatial coordination problem inherent in ultrasound-guided interventions. The AIM software continually monitors the positions of the needle and of the ultrasound transducer, displaying their *real-time* positions in an intuitive user interface on a 3D stereoscopic monitor.



Successful Clinical Trial

InnerOptic's AIM software provides Dr. David Iannitti real-time 3D guidance to quickly and accurately ablate five liver tumors in a recent clinical trial.



AIM displays the 3D virtual needle, target (purple box) and trajectory relative to the ultrasound image.

FDA-Cleared for Sale in the U.S.

This product and its use may be covered by U.S. Pat. No. 7,728,868 and other U.S. and foreign patents pending.

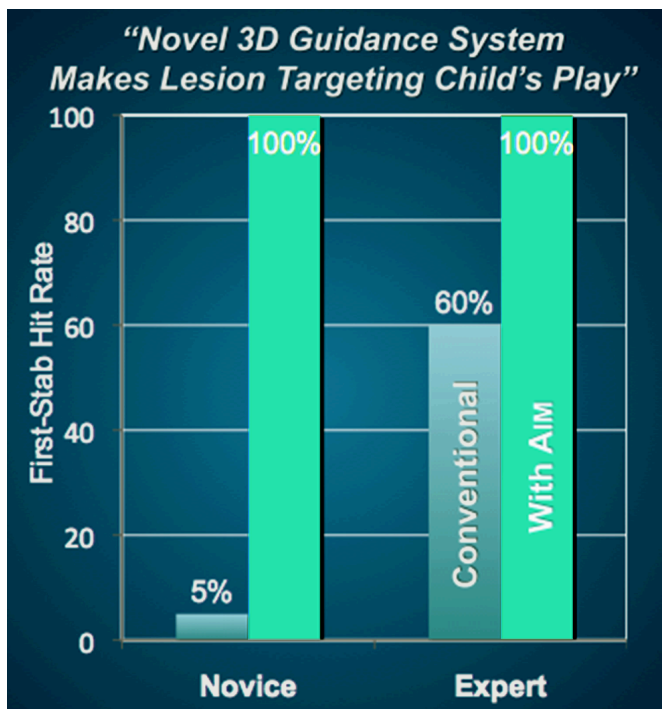
Supported Interventions

InnerOptic's AIM 3D guidance software addresses the over 27 million image-guided procedures performed annually in the US alone. AIM provides guidance for any needle-based intervention using ultrasound imaging, including catheterizations, nerve blocks, *in vitro* fertilizations, tumor ablations and biopsies. AIM supports open, percutaneous and laparoscopic interventions.

AIM's Benefits:

- Easier, safer, faster, more precise interventions
- Lower error and injury rates
- High reimbursements with an existing CPT code
- Easiest, most intuitive user interface
- Intuitive "freehand" device placement
- 3D interface restores hand-eye coordination
- Flexible software allows for easy integration into existing medical imaging systems
- Covered by multiple patents
- FDA 510k approved
- Improved patient outcomes

Improved physician performance has been demonstrated in multiple scientific studies and in a successful clinical trial.



AIM's Specifications:

FDA Cleared: For any needle-based interventions using ultrasound imaging.

Display: Stereoscopic 3D monitor

Guidance:

- Ultrasound image and needle in 3D
- Needle trajectory and intersection
- Ablation volume guide

Supported Ultrasound Systems*:

- BK Medical: Pro Focus 2202, UltraView
- Aloka: SSD-4000, Alpha 7
- SonoSite: S-Series

Supported Needles*:

- Covidien Evident™ microwave antenna
- Covidien CoolTip™ RFA electrode
- Microsulis microwave antenna
- Boston Scientific RFA electrode
- RITA/AngioDynamics StarBurst XL
- Any other 18-22 gauge needle upon request

* Other devices supported upon request.

About InnerOptic

InnerOptic Technology develops 3D visualization and guidance *software* that makes image-guided procedures simpler and safer to perform. InnerOptic Technology was launched to commercialize breakthrough medical visualization technology developed at the University of North Carolina at Chapel Hill. InnerOptic has an exclusive license to UNC's patents in medical visualization and image-guided surgery. With grants from the NSF and the NIH, InnerOptic has extended this technology with over 14 patented innovations. Located near Research Triangle Park, NC, InnerOptic has close relationships with industry pioneers at UNC and Carolinas Medical Center, and access to their state-of-the-art medical facilities.

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